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ABSTRACT

This study concerned effects of maternal work hours, education, and sex of child on the amount of supervision and guidance of children's study and homework and the amount of cognitive stimulation provided by the mother. Analyses were conducted to examine the relative contribution of commitment to the parental role and role strain to parent-child relationships. Participants were 52 married mothers of a kindergarten or first-grade child. Of the mothers, 22 were not employed, 18 were employed part-time, and 10 were employed full-time. Survey items concerned demographic characteristics, employment status, child supervision and guidance practices, cognitive stimulation activities, parental commitment, and role strain. There were no significant relationships between the number of hours that a mother was employed and the extent to which she provided supervision and guidance of her child's schoolwork and cognitive stimulation. Findings suggest that parental commitment plays an important role in the provision of supervision, guidance, and cognitive stimulation to the child. The effect of role st in on parenting processes appears to reflect a reduction in the amc t of time a mother has for supervision and guidance functions. (RH)

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Facilitating Children's Academic Achievement: Does Maternal Employment Matter?

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The majority of school-aged children today have a mother who is employed outside the home (Hayghe, 1984). This much touted change in mothers' labor force participation has generated considerable interest in understanding the impact of maternal employment on academic outcomes for young children. The findings to date are far from consistent. Research regarding the effects on children's achievement of maternal employment has tended to reveal little effect on the academic achievement of girls, and a rather mixed pattern of effects for boys. A handful of studies point to positive effects for boys from lower class families but negative effects for boys from middle class families (Hoffman, 1980; Bronfenbrenner & Crouter, 1982; Heyns, 1982). The former finding has frequently been interpreted in terms of the financial security and breadth of experience that may accompany mothers' employment in lower class families. This does not answer, however, the question of why detrimental effects on the academic achievement of middle class boys are found. One possibility may be that maternal employment in the middle class reduces the level of supervision and guidance in the early school years.

Recently, researchers have been challenged to move from models that link employment status directly to academic achievement outcomes for children, to models that examine process variables capable of mediating the relationships between parental employment and achievement outcomes for children. Studies of cognitive development and school performance

summarized by Hess and Holloway (1984) emphasize the importance of parents' active participation in their child's cognitive development through guidance and supervision of studying and the provision of cognitive stimulation in the home.

A second, recent approach to understanding the effects of parental employment suggests that commitment to the parental role, rather than the extent of work involvement, may play a key role in determining how parents interact with their children. The findings of Greenberger and Goldberg (1989) suggest that parental commitment, operationalized as the extent of psychological commitment to the parental role, may play a role in moderating the relationship between maternal employment and the extent of achievement-facilitation offered the child (e.g. supervision and guidance and cognitive stimulation).

An equally important potential moderator of relationships between maternal employment and achievement outcomes for children may be the strain associated with the performance of multiple roles. Research suggests that mothers' psychological well-being is an important predictor of the quality of parent-child interactions (Panaccione & Wahler, 1986). Such findings are not limited to clinical populations. In a study of 196 employed mothers, Greenberger, O'Neil and Payne (in preparation) found that mothers' level of role strain significantly predicted their evaluation of how well they were performing as parents. It is important to explore the possibility that only when maternal employment is considered "stressful" to the mother does it interfere with her ability to provide achievement-facilitating parenting.

This study focuses on three categories of "process" variables: parents' involvement in the facilitation of academic achievement, parents' commitment to the parenting role, and the extent of strain associated with meeting adult role obligations. Two basic questions are addressed:

(1) to what extent does maternal employment directly influence the extent of supervision and guidance provided by mothers of early elementary school-aged children?;

(2) what role do parental commitment and role strain play in mediating or moderating the relationship between maternal employment and the facilitation of children's academic achievement?.

This study uses multiple regression to examine the effects of maternal work hours, education, and sex of child on the amount of supervision and guidance of children's studying and homework and on the amount of cognitive stimulation provided by the mother. In addition, analyses were conducted to examine the relative contribution of commitment to the parental role and role strain to these relationships.

Method

Subjects

The sample consisted of 52 married mothers of a kindergarten or first-grade child, all residing in Southern California. The respondents ranged from upper working-class to upper middle-class

in socioeconomic background. Twenty-two of the mothers were not currently employed, 18 were employed part-time (less than 35 hours per week), and 10 were employed full-time (35 or more hours per week.)

Procedures

As part of a larger program of investigation, mothers were asked to complete a 25-page mailed questionnaire related to work and family life.

Study Measures

Demographic and employment information. Mothers reported their age, level of education, current or most recent occupation, family income, number of children, and gender and grade level of the target child. Mothers also reported their number of paid hours of employment as well as additional hours that they spent on work-rleated activities. These two items were summed and used as a measure of total work hours.

Supervision and guidance. The extent to which mothers offered supervision and guidance of their child's schoolwork and learning was assessed using a 21-item scale developed by O'Neil and Greenberger designed to tap the extent of involvement in the child's school life (e.g., practicing skills, supervising studying, attending school functions) and the amount of encouragment and praise given for academic accomplishments. Respondents indicated their level of agreement/disagreement with each item on a 7-point Likert scale. Coefficient alpha for the scale was .63.

Cognitive stimulation. The cognitive stimulation mothers provided was measured with a 23-item scale developed by

O'Neil and Greenberger that was designed to assess the mother's active encouragement of language development, imagination and curiosty, and problem-solving skills. Subjects indicated their level of agreement/disagreement with each item on a 7-point Likert scale. Coefficient alpha for this scale was .75.

Parental commitment. Psychological investment in the parenting role was assessed by a 17-item scale developed by Greenberger and Goldberg (1989; see also Greenberger, 1988) designed to tap the centrality of parenting to the self, the salience of parenting in relation to other activities and aspirations to perform well as a parent. Respondents indicated their degree of agreement/disagreement with each item on a 6-point Likert scale. Coefficient alpha for this scale was .73.

Role strain. The extent of role strain associated with meeting adult role demands (spouse, parent and goal achievement at work or in other activities) was assessed using a 28-item scale that taps spillover from one role to another, conflict between roles and strain within roles (Greenberger, Goldberg, Hamill & O'Neil, under review). Respondents indicated their extent of agreement/disagreement with each item on a 4-pont Likert scale. Coefficient alpha for this scale was .91.

Sample items from the scales used in this study are shown in Table 1.

Place Table 1 about here

Results

Mean differences in study variables related to sex of child. Before moving to the central questions of this study, it is relevant to address the issue of whether there are significant differences between mothers of boys and mothers of girls on any of the study variables. Analysis of variance indicated no significant differences in education or total work hours between mothers of boys and girls. Mothers also did not differ in the amount of supervision and guidance or cognitive stimulation that they provided to sons and daughters. Finally, there were no significant differences between mothers of boys and mothers of girls in the level of parental commitment or extent of role strain reported. Means and standard deviations are reported in Table 2.

Place Table 2 about here

Correlations among the study variables. Bivariate relationships among the study variables are reported in Table 3, for mothers of boys and mothers of girls separately. With few

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Place Table 3 about here

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exceptions (described below), the relationships among the study

variables appear very similar for mothers of boys and mothers of girls.

While the total number of hours that a mother is employed are not significantly related to the amount of supervision and guidance or cognitive stimulation she provides, total work hours are related to the amount of role strain she reports ($r=.40$, $p<.05$, for mothers of boys and $r=.52$, $p<.01$, for mothers of girls). The extent of role strain reported, in turn, is significantly and inversely associated with mothers' supervision and guidance of boys ($r=-.51, p<.01$). Level of role strain is not related to supervision and guidance of girls. Interestingly, there is no association between level of role strain and the amount of cognitive stimulation provided, for either group of mothers. Parental commitment, on the other hand, is strongly associated with the level of cognitive stimulation offered by the mother to both boys and girls ($r=.61, p<.01$, for mothers of boys and $r=.59$, $p<.01$ for mothers of girls), but is only associated with the extent of supervision and guidance provided by mothers to their boys ($r=.50, p<.01$).

Direct effects of maternal employment on achievement-facilitation. Hierarchical multiple regression was used to determine the extent to which education, mothers' total work hours, and sex of child predicted the level of supervision and guidance and cognitive stimulation mothers provided. The possibility of a sex of child X total work hours interaction was also explored by entering this variable on a separate step in the model.[1] As indicated in Table 4, these variables do not

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Place Table 4 about here

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contribute to the explanation of the supervision and guidance provided by mothers in this sample. With respect to cognitive stimulation, level of education is the only variable in the model that is significantly associated with the extent of cognitive stimulation provided by mothers. More educated mothers provided more cognitive stimulation, as might be expected.

Moderating role of parental commitment and role strain. In order to explore the capacity of parental commitment and role strain to moderate the relationship between total work hours and achievement-facilitation, two more sets of hierarchical regressions were conducted. In the first, parental commitment and the parental commitment X total hours interaction and the parental commitment X sex of child interaction were added to the original set of predictors shown in Table 4. In order to conserve degrees of freedom in this relatively small sample, all nonsignificant interaction terms were removed from the final model. In a similar set of analyses, role strain and the interactions of role strain with total hours and with sex of child were added. The results of these analyses are presented in Table 5 and Table 6.

Place Tables 5 and 6 about here

When parental commitment and its associated interaction terms were added to the model, as shown in Table 5, level of parental commitment made a significant unique contribution to the explanation of supervision and guidance, explaining approximately 9% of the variance in this measure. In addition, the significant parental commitment X sex of child interaction term indicated that increased levels of parental commitment were particularly likely to be associated with greater provision of supervision and guidance for mothers of boys. A similar hierarchical analysis indicated that parental commitment also contributed a striking 31% to the explanation of cognitive stimulation. None of the interacation terms remained in this model.

When similar analyses were conducted adding role strain and its associated interaction terms to the model, role strain contributed a significant 15% the the explanation of mothers' level of supervision and guidance. In contrast, role strain did not contribute to the explanation of the level of cognitive stimulation mothers provided. None of the interaction terms remained in the model for either achievement-faciliation measure.

Discussion

This study did not find a significant relationship between the number of hours that a mother is employed and the extent to which she provides supervision and guidance of her child's schoolwork nor the extent to which she provides cognitive stimulation.

When other process variables are considered, however,

several important findings emerge. The first finding suggests that parental commitment plays an important role in the provision of achievement-facilitation---regardless of maternal employment status. The extent to which mothers view parenting as a central role seems particularly likely to determine the amount of effort they put into supervision and guidance of their sons'schoolwork.

A second important finding points to the important influence of role-overload or role strain in meeting adult role demands for mothers' provision of achievement-facilitation---not only for employed mothers but also for mothers who are not employed outside the home. Interestingly, the effect of role strain on parenting processes appears to reflect a reduction in the quantity of time the mother is available to offer supervision and guidance to her child, but is not associated with reductions in the quality of cognitive stimulation.

It is important to note possible limitations of the current work. First, this study provides no direct evidence that achievement-faciliationg behaviors such as the ones measured in this study and predicted by parental commitment and role strain actually predict achievement outcomes. Second, the sample size in this study is relatively small. Both limitations---and others not noted here---are being addressed in research currently underway.

Notes

1 In order to test for a curvilinear relationship between total work hours and achievement facilitation, the quadratic term was also added to the model in separate analyses but did not contribute significantly to explained variance.

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Table 1. Sample Items from Study Scales

SUPERVISION AND GUIDANCE

1. I'm often nearby while my child works on schoolwork.

2. I don't encourage my child to come to me for help with school-related problems. (Reverse)

3. I try to find opportunities for my child to practice skills while doing household chores (ex.: "Count out 8 knives, 8 forks, and 8 spoons when you set the table.")

COGNITIVE STIMULATION

1. I encourage my child, even at this age, to wonder and think about life.

2. I'm the kind of parent who deliberately selects toys that are a bit too advanced for my child.

3. When my child is reading or listening to a story, I ask my child what the characters might be thinking or feeling.

PARENTAL COMMITMENT

1. Being a parent allows me to express some of the traits and values I most prize in myself.

2. Being a parent isn't as rewarding as I had expected. (Reverse)

3. I give up personal pleasures, such as extra sleep or socializing with friends, to be with my child.

ROLE STRAIN

1. I feel that I have too much to do and not enough time or energy to do it all.

2. I do <u>not</u> feel that pressures from work/outside activities carry over into my family life. (Reverse)

3. When I go to bed at night, my mind is full of all the things I have to do tomorrow.

Table 2. Means and Standard Deviations for the Study Measures

Variable	Mothers of Boys (n=24) Mean	Std Dev	Mothers of Girls (n=28) Mean	Std Dev
EDUCATION	4.71	1.16	4.89	1.10
TOTAL HOURS				
Non employed	.27	.91	.25	.87
Part-time	21.00	11.00	19.89	5.40
Full-time	38.25	2.36	41.83	2.14
SUP/GUIDANCE	5.47	.54	5.52	.42
COG STIMULATION	5.08	.57	4.94	.46
PARENTAL COMMITMENT	4.43	.41	4.31	.49
ROLE STRAIN	2.13	.57	2.16	.51

Table 3. Intercorrelations among Study Variables

	1	2	3	4	5	6
EDUCATION	-----	-.31 .11	.01 -.06	.47* .21	.35* -.13	.30 -.04
TOTAL HOURS		-----	.08 -.15	.16 -.02	.15 -.22	.40* .52**
SUP/GUIDANCE			-----	.31 .25	.50** .11	-.51** -.13
COG STIMULATION				-----	.61** .59**	-.28 -.06
PARENTAL COMMITMENT					-----	-.14 -.07
ROLE STRAIN						-----

+ $p<.10$ * $p<.05$ ** $p<.01$

First row mothers of boys; second row mothers of girls.

Table 4. Hierarchical Regression Analysis: Direct Effects of Total Hours on Supervision and Guidance and Cognitive Stimulation

	SUP/GUIDANCE			COG STIMULATION		
Predictor	b	SE	Beta	b	SE	Beta
Step 1						
EDUCATION	-.01	.06	-.01	.18	.06	.40**
SEX OF CHILD	.05	.14	.05	-.14	.14	-.14
TOTAL HOURS	-.00	.00	-.02	.00	.00	.11
	(ΔR^2 = .00)			(ΔR^2 = .14+)		
Step 2						
SEX OF CHILD X TOTAL HOURS	-.01	.01	-.11	-.01	.01	-.19
	(ΔR^2 = .00)			(ΔR^2 = .03)		
R^2	.02			.18		
Adj. R^2	.00			.11		

+p<.10 *p<.05 **p<.01

Table 5. Hierarchical Regression Analysis: Moderating Effects of Parental Commitment on Supervision and Guidance and Cognitive Stimulation

	SUP/GUIDANCE			COG STIMULATION		
Predictor	b	SE	Beta	b	SE	Beta
Step 1						
EDUCATION	-.05	.06	-.13	.14	.05	.31**
SEX OF CHILD	-.10	.13	.11	-.09	.11	-.09
TOTAL HOURS	-.00	.00	-.07	.00	.00	.14
	(ΔR^2 = .00)			(ΔR^2 = .14+)		
Step 2						
PAR COMMITMENT	.37	.15	.35*	.63	.12	.56***
	(ΔR^2 = .09*)			(ΔR^2 = .31*)		
STEP 3						
SEX OF CHILD X PAR COMMITMENT	-.64	.31	-.30*	----------		
	(ΔR^2 = .10*)					
R^2		.17			.45	
Adj. R^2		.08			.41***	

+P<.10 *P<.05 **P<.01 ***P<.001

+p<.10 *p<.05 **p<.01

Table 6. Hierarchical Regression Analysis: Moderating Effects of Role Strain on Supervision and Guidance and Cognitive Stimulation

	SUP/GUIDANCE			COG STIMULATION		
Predictor	b	SE	Beta	b	SE	Beta
Step 1						
EDUCATION	-.04	.06	-.09	.15	.06	.33*
SEX OF CHILD	.05	.13	.05	-.15	.14	-.15
TOTAL HOURS	.01	.00	.17	.01	.01	.19
	(ΔR^2 = .03)			(ΔR^2 = .15*)		
Step 2						
ROLE STRAIN	-.38	.14	-.43**	-.19	.15	.20
	(ΔR^2 = .15*)			(ΔR^2 = .03)		
STEP 3						
no interactions were retained						
R^2		.15			.18	
Adj. R^2		.07			.10+	

+P<.10 *P<.05 **P<.01 ***P<.001